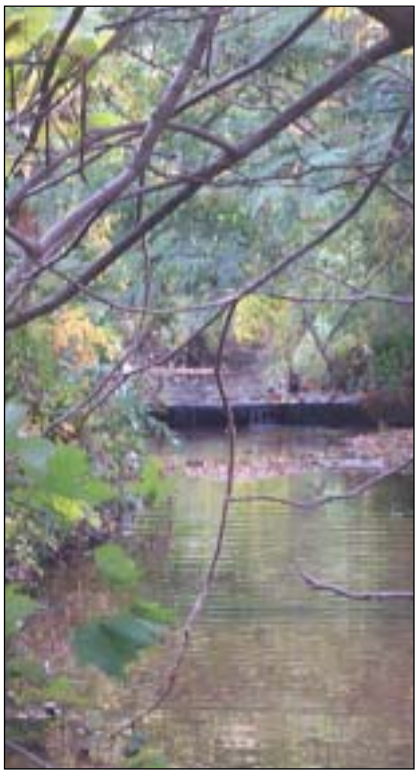
City of Alexandria, Virginia

Municipal Separate Storm Sewer System (MS4) Program Plan

September 8, 2008



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Submitted to the Virginia Department of Conservation and Recreation in compliance with Permit No. VAR040057

AMEC Earth & Environmental, Inc.

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A. Introduction

This document represents the City of Alexandria's plan to meet the requirements of 4VAC50-60 "General Virginia Stormwater Management Program (VSMP) Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems." The City was originally issued a VSMP permit on July 8, 2003 (Permit No. VAR40057) and successfully met the requirements over the initial five year permit period. The permit was re-issued on July 9, 2008 and will expire on July 8, 2013. While the basic framework has not changed, several permit modifications require changes to the City's stormwater management program. This plan demonstrates how the City will meet the new permit requirements through 2013.

Mandated by Congress under the Clean Water Act and implemented in Virginia by the Department of Conservation and Recreation, the purpose of the VSMP permit regulations is to protect water quality from urban pollution carried by stormwater into waters of the State. Stormwater runoff from urban areas may contain sediments, fertilizers, pesticides, bacteria, motor oil, and other pollutants generated by various land uses and human activities. When left uncontrolled, this pollution can result in the impairment or destruction of fish, wildlife, and aquatic life habitats; a loss in aesthetic value; and threats to public safety and health.

To achieve these water quality goals, the permit requires the City to control the discharge of pollutants to the maximum extent practicable by addressing six minimum control measures (MCMs). These MCMs include:

1. Public Education and Outreach on Stormwater Impacts	4. Construction Site Stormwater Runoff Control
2. Public Involvement/Participation	5. Post-Construction Stormwater Management
3. Illegal Discharge Detection and Elimination	6. Pollution Prevention/Good Housekeeping for Municipal Operations

While the focus of the permit is on prevention, the regulations also require special measures to address waters bodies that are already identified as impaired in the Department of Environmental Quality's 303(d) report. In addition, the permit provides for specific actions to be taken when a

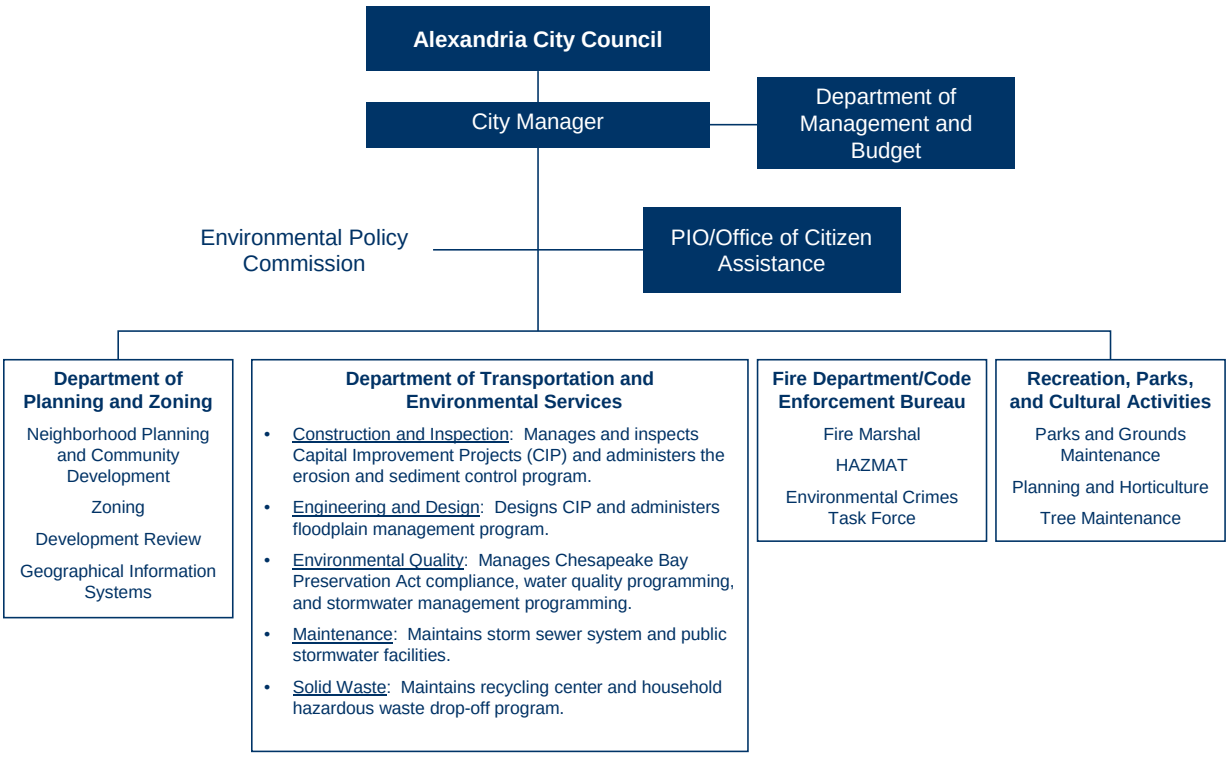
Total Maximum Daily Load (TMDL) has been established for a specific pollutant of concern. A TMDL establishes the maximum amount of a pollutant that can enter a water body without violating water quality standards and results in the assignment of a wasteload allocation for the pollutant to all measurable sources. In the City of Alexandria, TMDLs have been developed for bacteria (non-tidal Four Mile Run) and for PCBs (all City watersheds).

The City has engaged in an extensive review and assessment of existing stormwater management operations, ordinances, protocols, and programming against the VSMP permit compliance requirements. Based on that review and assessment, the City has developed appropriate and cost effective best management practices (BMPs) that will control pollution to the maximum extent practicable.

B. Organization of the City's Stormwater Management Program

VSMP permit compliance activities are coordinated through the Division of Environmental Quality (T&ES-OEQ) within the Department of Transportation and Environmental Services. While T&ES-OEQ is responsible for overall coordination, including the submittal of annual reports, several other departments and divisions have important roles in implementing the VSMP permit. The following organizational chart provides a summary of roles and responsibilities.

Figure 1. City of Alexandria Stormwater Management Organization



The following department and division acronyms are used in this MS4 Program Plan:

ASA.....Alexandria Sanitation Authority
DIT .....Department of Information Technology
ECG.....Environmental Coordinating Group (TES, Health Department, F&R, RP&CA, P&Z, General Services, and ASA)
GS-FSD.....General Services, Fleet Services Division
PIO .....Public Information Officer
P&Z.....Department of Planning and Zoning
RP&CA .....Department of Recreation, Parks, and Cultural Activities
T&ES .....Department of Transportation and Environmental Services
T&ES-OEQ.....TE&S, Office of Environmental Quality
T&ES-C&I.....TE&S, Division of Construction and Inspection
T&ES-Maintenance ...TE&S, Division of Maintenance
T&ES-SW .....TE&S, Division of Solid Waste

C. Special Requirements for Impaired Waters and TMDLs

In addition to developing a plan to meet each of the six Minimum Control Measures (MCM), the permit requires that the MS4 Program Plan include measurable goals and actions to reduce pollutants of concern when a water body has been identified as impaired in Virginia's 303(d) report. These actions and goals are integrated throughout the BMPs identified in Section D. 4VAC50-60-1240 Section I.B of the VSMP permit regulations also establishes specific requirements where… "a total maximum daily load approved by the State Water Control Board… includes a wasteload allocation to the regulated small MS4 that identifies the pollutant for which stormwater controls are necessary for the surface waters to meet water quality standards."

Several water bodies that drain the City of Alexandria have been identified as impaired; however, not all of these water bodies are currently subject to a TMDL. The following table provides a list of impaired waters and the TMDL development status.

Table 1. Impaired Waters and TMDL Status

Impairment	Water Body	TMDL Status
Aquatic Plants	Tidal Portion of Hunting Creek	No TMDL
	Tidal Portion of Hoof Run	No TMDL
	Tidal Portion of Four Mile Run	No TMDL
PCBs in Fish Tissue	Tidal Portion of Hunting Creek	TMDL Developed

	Tidal Portion of Hoof Run	TMDL Developed
	Tidal Portion of Four Mile Run	TMDL Developed
Fecal Coliform	Backlick Run	No TMDL
	Holmes Run	No TMDL
	Four Mile Run	TMDL Developed (Non-Tidal Only); TMDL Implementation Plan (Non-Tidal Only)
Escherichia Coli	Tidal Hunting Creek	No TMDL
	Four Mile Run	No TMDL
	Cameron Run/Hunting Creek	No TMDL

As required by the VSMP permit regulations, the City must estimate the acreage discharging to each HUC and impaired water. This information is included in the following table.

Table 2. Acres Discharging to Each HUC and Impaired Water

HUC and/or Impaired Water	Draining MS4	
PL 25 (PCBs, Aquatic Plants, Fecal Coliform/E. Coli)	2,752.6 Acres	
Non-Tidal Portion PL 25 (Fecal Coliform Subject to TMDL)	*1,088.0 Acres*	
PL 26 (PCBs, Aquatic Plants, Fecal Coliform/E. Coli)	6,623.1 Acres	
PL28 (PCBs, Aquatic Plants, Fecal Coliform/E. Coli)	439.9 Acres	

The City is accountable for specific pollutant reductions through the assignment of a waste load allocation (WLA). Alexandria has two stormwater-related WLAs associated with approved TMDLs. The first is the Four Mile Run TMDL for fecal coliform bacteria. This TMDL, adopted in 2002, affects only the 1.7 square miles of the City where outfalls drain to the non-tidal portion of Four Mile Run. The second is the Tidal Potomac TMDL for PCBs. This TMDL, adopted in 2007, affects the entire land area of the City.

Based on these TMDLs, the City is required to engage in the following additional tasks for the pollutants of concern in the affected watersheds:

- 4VAC50-60-1240 Section I.B.2 – Identify and evaluate programs, policies, etc. that address the pollutants of concern and develop a plan to address any program weaknesses;
- 4VAC50-60-1240 Section I.B.3 – Develop and implement a public awareness campaign;

- 4VAC50-60-1240 Section I.B.4 – Implement any TMDL Implementation Plan actions assigned to the City;
- 4VAC50-60-1240 Section I.B.5 – Conduct additional outfall reconnaissance monitoring;
- 4VAC50-60-1240 Section I.B.6 – Evaluate high risk facilities and conduct monitoring and BMP implementation as needed; and,
- 4VAC50-60-1240 Section I.B.7,8&9 – Conduct additional program evaluation and provide additional information as part of the City's annual report.

In accordance with 4VAC50-60-1240 Section I.B.1, the City has 18-months from permit coverage (January 9, 2010) to establish specific goals, schedules, and strategies. The following is a brief overview of how the City intends to meet these requirements as part of this MS4 Program Plan. The City will re-evaluate these goals, schedules, and strategies before January 9, 2010 and will send notice to the Department of Conservation and Recreation either affirming them or modifying them as necessary.

Program Evaluation and Follow-Up

The VSMP permit requires that "The operator shall develop a list of its current ordinances and legal authorities, BMPs, policies, plans, procedures and contracts implemented as part of the MS4 Program that are applicable to reducing the pollutant identified in a WLA." The City is then required to evaluate and assess the adequacy of these measures, identify any weaknesses, and develop actions accordingly. Appendix A contains a list of applicable ordinances, legal authorities, etc. Based on the City's review, and the development of additional BMPs in Section D to address bacteria and PCBs, no weaknesses or inadequacies have been identified.

Public Awareness Campaign

The City has already developed a rigorous public awareness campaign to address pet waste, which is the primary anthropogenic source of bacteria pollution. The adequacy of these measures have been assessed and refined under MCM #1 in Section D. Sources of PCBs are limited to certain industrial and commercial uses, and as a result, a general public awareness campaign is not deemed appropriate. The City has incorporated new awareness actions under MCM #1 to address the PCB TMDL by targeting likely industrial and commercial sources.

TMDL Implementation Plan Actions

The VSMP permit requires that the City incorporate into the MS4 Program Plan any actions, or their equivalent, that have been developed as part of a TMDL Implementation Plan (IP). No implementation plan has been developed for the PCB TMDL. However, a TMDL IP was developed for the Four Mile Run bacteria TMDL in 2004 with specific actions assigned to the City. These actions are listed in Appendix B and have been incorporated as appropriate into the BMPs outlined in Section D.

Outfall Reconnaissance Monitoring

The permit requires the development and implementation of an outfall reconnaissance procedure to identify potential sources of pollutants identified in the WLA from anthropogenic activities. This is in addition to existing dry weather monitoring conducted as part of illicit discharge detection and elimination efforts in MCM #3. Under the permit, outfall reconnaissance must be conducted on all outfalls in the affected hydrologic unit. However, if the number of outfalls exceeds 250, then a minimum of 250 outfalls must be inspected in that hydrologic unit. No less than 15% of outfalls (or 35 outfalls if there are more than 250) must be inspected each year.

Alexandria has a total of 425 stormwater outfalls. Based on the permit requirements, the City must conduct outfall reconnaissance for bacteria on all outfalls in the non-tidal Four Mile Run watershed. The City must also conduct outfall reconnaissance for PCBs based on three WLAs. These WLAs are broken out according to the following:

- PCB WLA #1 = 2.98 g/year Lower Potomac (Impaired Reference Number 3) and Four Mile Run (Impaired Reference Number 12). Combined WLA Total Alexandria Outfalls 131 + 12 = 143. Since 143 < 250, Alexandria must inspect all 143 outfalls (average 28 per year, minimum 21 per year).

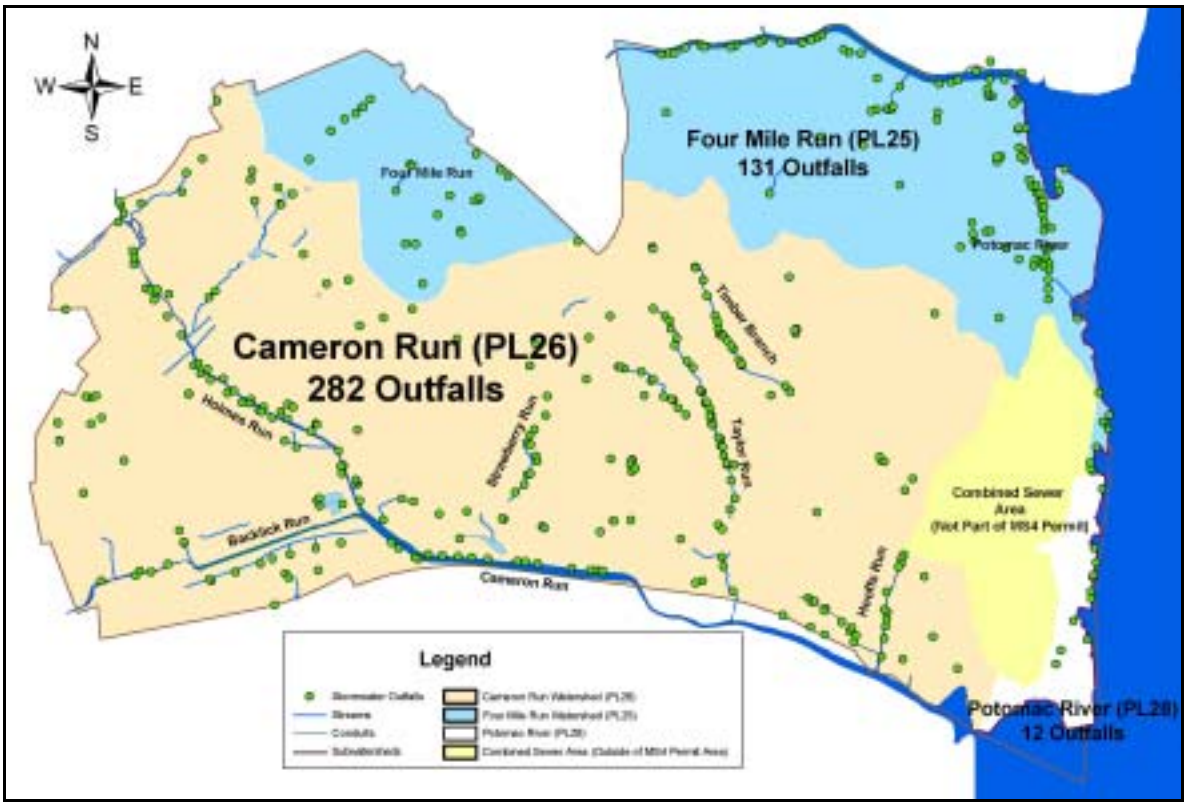
- PCB WLA #2 = 0.503 g/year Lower Potomac (Impaired Reference Number 3) and Hooff Run and Hunting Creek (Impaired Reference Number 14). Combined WLA Total Alexandria Outfalls 282 + 12 = 294. However, these are accounted for in WLA #1 and #3. No additional outfall reconnaissance required.

- PCB WLA #3 = 6.79 g/year Hooff Run and Hunting Creek (Impaired Reference Number 14). Total Alexandria Outfalls = 282. Since 282 >250, Alexandria must inspect 250 outfalls (average 50 per year, minimum 35 per year).

Based on the above analysis, the City must conduct reconnaissance on a total of 393 outfalls during a five year permit cycle. Because the requirement begins mid-permit cycle (18 months after issuance of the permit), the City has calculated that only 275 outfalls are required to be inspected during the five year period covered by this plan. The outfall reconnaissance schedule is found in BMP 3H in Section D.

Because the City must conduct site visits to each of the above mentioned outfalls, the City intends to screen for all potential illicit discharges during the reconnaissance process. The City will utilize the procedures and checklists presented in the Center for Watershed Protection's IDDE Manual, as may be modified to fit the specific needs of the City.

Figure 2. City of Alexandria Watersheds and Number of Outfalls



High Risk Facility Evaluation

Within the first three years of the permit issuance, the City must identify and assess public properties/facilities for their potential to generate either PCBs (City-wide) or fecal coliform bacteria (non-tidal Four Mile Run watershed). For bacteria, this will include whether the facility is old enough that it might have potential cross connections or floor drains leading to the stormwater system. Other items for bacteria include the use of the facility by pets (animal shelters, dog parks, etc.) and facilities that may have diaper changing areas, outdoor trash storage, porta-potties, etc. For PCBs, this will include an assessment of whether PCBs have ever been stored on the site in a transformer, hydraulic equipment, etc. The final list will be reported to DCR along with a justification for which properties/facilities will be subject to the more rigorous facility review. For these facilities, the permit requires specific chemical monitoring and the development of action plans for any property where chemical monitoring reveals an elevated presence of the pollutant of concern. The schedule for meeting these requirements is found in BMP 3I in Section D.

Enhanced Annual Reporting and Evaluation

Enhanced annual reporting and evaluation, as required in 4VAC50-60-1240 Section I.B.7, 8 & 9, will be included in the City's annual report to DCR.

D. Minimum Control Measures

The following sections describe the best management practices (BMPs) that the City of Alexandria will utilize and implement to meet each of the six minimum control measures as well as the requirements outlined in Section C regarding impaired waters and TMDLs. Included with each BMP is a description of:

- Policies, ordinances, schedules, inspection forms, written procedures, and other documents necessary for BMP implementation.
- The objective and expected results of each BMP in meeting the measurable goals of the minimum control measure.
- Parties responsible for BMP implementation.
- The implementation schedule for the proposed BMP.
- Documentation and the method that will be utilized to determine the effectiveness of the BMP.

After each section is a table that summarizes the schedule for implementing the MCM.

MCM #1: Public Education and Outreach on Stormwater Impacts
Permit Requirement: The operator shall identify, schedule, implement, evaluate and modify, as necessary, best management practices (BMPs) to meet the following public education and outreach measurable goals: a. Increased individual and household knowledge about the steps that they can take to reduce stormwater pollution, placing priority on reducing impacts to impaired waters and other local water pollution concerns. b. Increased public employee, business, and general public knowledge of hazards associated with illegal discharges and improper disposal of waste, including pertinent legal implications. c. Increased individual and group involvement in local water quality improvement initiatives including the promotion of local restoration and clean up projects, programs, groups, meetings and other opportunities for public involvement. d. Diverse strategies to target audiences specific to the area serviced by the regulated small MS4. e. Improved outreach program to address viewpoints and concerns of target audiences, with a recommended focus on minorities, disadvantaged audiences and minors. f. Targeted strategies towards local groups of commercial, industrial, and institutional entities likely to have significant stormwater impacts.

BMP 1A – General Public Education and Speaker's Bureau

The City has developed a general education brochure entitled "Every Day Activities Can Contribute to Stormwater Pollution." These materials have been widely distributed by City staff at events and meetings throughout the community. In addition, the City has participated in regional education and outreach efforts, including the Northern Virginia Regional Commission's Clean Water Partners program. This program has reached large audiences primarily through radio PSAs.

Objective and Expected Results: Distributing a general education brochure and participating in regional outreach efforts increases individual and household knowledge about the steps that they can take to reduce stormwater pollution and increases an understanding of the legal implications of the improper disposal of waste.

Responsible Party: T&ES-OEQ.

Implementation and Schedule:

- During PY1, the City will update the general education brochure to include more specific actions that can be taken to reduce pollution, including a focus on bacteria, and information on the legal implications of the improper disposal of waste.
- The City will continue to distribute the general education brochure at appropriate community events and meetings.
- Starting in PY2, T&ES-OEQ will include one environmental/water quality related article annually in the City's *FYI Alexandria* newsletter, which goes out to all Alexandria residents.
- The City will continue to participate in regional education programs.

Documentation and Measure of Effectiveness: The City will document efforts to engage and educate citizens and will report on these efforts in the annual report. This will include the number of events attended and an estimate of the number of individuals reached. In addition, the NVRC Clean Water Partners conducts an annual survey to assess the impacts of the program on individual behavior. The City will use this information to determine whether to continue participation in this regional effort.

BMP 1B – Stream Crossing Signs

The City has installed 33 signs at 18 locations where roads cross major waterways. In addition, the City has installed nine signs at major stream crossings on hike/bike trails. The signs announce the name of the waterway and that the waterway is part of the Chesapeake Bay watershed.

Objective and Expected Results: Stream crossing signs help promote general citizen and visiting motorist awareness of the City's surface water resources, water bodies, and drainage basins. The signs also help link local watershed protection efforts with larger Chesapeake Bay protection efforts.

Responsible Party: T&ES-OEQ.

Implementation and Schedule: Initial installation of the signs is complete and no additional signs have been identified as being needed at this time. The City will continue to maintain the signs during the permit period.

Documentation and Measure of Effectiveness: The City will document the maintenance of the signs in the annual report.

BMP 1C – Text Messages and PSAs for Cable TV

The City is fortunate to have a government access channel (Channel 70) and a community access channel (Channel 69) that can be used to broadcast pollution prevention messages to the general public. For the past several years, the City has run a scrolling text message on pollution prevention on Channel 70 and has aired pollution prevention PSAs on Channel 69. The PSAs have covered three topics: proper disposal of used oil, proper fertilization techniques, and proper disposal of pet waste.

Objectives and Expected Results: The purpose of the text message and the PSAs is to expose a wide audience to both a general pollution prevention message and to highlight actions that can be taken to reduce specific pollutants of concern, such as bacteria.

Responsible Party: T&ES-OEQ will take the lead with assistance from the PIO.

Implementation and Schedule:

- The City will continue to broadcast a seasonal, scrolling text message on the City's government access channel dealing with stormwater pollution prevention.
- The City will continue to air PSAs throughout the year on the community access channel. Topics will be selected to deal with specific pollutants of concern.

Documentation and Measure of Effectiveness: The City will provide documentation of the PSAs and the seasonal scrolling text message in the annual report.

BMP 1D – Stormwater BMP Signage

The City has implemented a requirement for all new and redevelopment projects to provide signage or labeling to identify new surface structural stormwater BMPs.

Objectives and Expected Results: Signage and labeling of structural stormwater BMPs helps educate the general public, and those maintaining structural stormwater BMPs, about the purpose of these facilities.

Responsible Party: T&ES-OEQ and P&Z.

Implementation and Schedule: This requirement is implemented for all new and redevelopment projects during the City site plan approval process.

Documentation and Measure of Effectiveness: All final site plans will show the location and details of signage or labeling to identify new surface structural stormwater BMPs. The City will provide examples of signage and labeling that has occurred as a result of this requirement.

BMP 1E – Storm Drain Inlet Marking

The City was one of the first localities in Northern Virginia to implement a storm drain marking program. To facilitate this program, the City has adopted a requirement for all new development and redevelopment to mark storm drain inlet covers located within 50 feet of the property line. The City also works with volunteers to install markers in existing neighborhoods. When this is

done, the City distributes a door hanger that explains the program and provides information on alternatives to dumping.

Objectives and Expected Results: The goal of the storm drain inlet marking is to reduce dumping by providing a visual way of alerting residents and visitors that storm drains empty into local streams and eventually the Chesapeake Bay. The door hanger provides specific information on where to properly dispose of commonly dumped materials. Finally, the program provides a way for citizens and community groups to become directly involved in pollution prevention activities.

Responsible Party:

- T&ES-OEQ is responsible for ensuring that the requirement to mark storm drain inlet covers is satisfactorily implemented.
- P&Z is responsible for ensuring compliance with the overall site plan approval process.

Implementation and Schedule:

- All final site plans will require storm drain inlets within 50 feet of the project to be marked. This will occur during the City site plan approval process.
- The City will promote the City's storm drain marking program at community events and on the web page to engage volunteers.

Documentation and Measure of Effectiveness: The City will document that all final site plans have a requirement for storm water inlets within 50 feet of the project to be marked. In addition, the City will provide a table with the number of storm drain markers installed and the number of groups involved in storm drain marking projects that are hosted or promoted by the City.

BMP 1F – Water Quality Web Site

The City has developed a web site dedicated to water quality and stormwater management. According to 2000 Census data, over 75% of Northern Virginia households have access to the internet. The site provides information about the program, serves as a forum to distribute educational materials, and includes information on where to report suspected illegal dumping.

Objectives and Expected Results: The website is a tool to provide water quality and pollution prevention information to the general public in an easily accessible format. It also provides a way to make documents accessible to the public for review and comment.

Responsible Party:

- T&ES-OEQ is responsible for keeping site content up-to-date and for assessing options for increasing site traffic.
- DIT is responsible for web site hosting and technical development.

Implementation and Schedule:

- The City will continue to host the web site and update it with new information.

- By the end of PY2, and again by the end of PY5, the City will conduct a comprehensive re-assessment of the web site, including design, content, ease of navigation, and actual usage and update the site and content accordingly.

Documentation and Measure of Effectiveness: The City will provide information on the web site and provide a snapshot of the web page in the annual report. In the PY2 and PY5 annual reports, the City will provide a description of the assessment process and describe changes, if any, made to the web site.

BMP 1G – Education Concerning Fecal Coliform Bacteria

Several City tributaries are on the impaired waters list for either fecal coliform bacteria or escherichia coli. The Four Mile Run TMDL states that approximately 15% of the pollutant load is attributed to fecal coliform from canines. The City has developed a pollution prevention brochure specifically targeting pet owners and has obtained "Please Pick Up My Poop" post cards developed through the NVRC Clean Water Partners program.

Objectives and Expected Results: The goal of this measure is to reduce bacteria pollution by targeting pollution prevention educational materials to the City's pet owners.

Figure 3. Example Pet Owner Education Kiosk

Responsible Party: OEQ-T&ES will take the lead on this effort with the assistance and cooperation of RP&AC and the City Animal Shelter.

Implementation and Schedule:

- The City will continue to distribute the pet waste brochure and the post card at all appropriate events.
- The City will distribute the brochure to anyone adopting a dog at the animal shelter.
- During PY4, the City will implement a kiosk-style station at the Fort Ward Dog Exercise Area as a pilot project. The station may include educational materials and dog mitts for disposing of fecal materials. Fort Ward is the only dog run located in the Four Mile Run non-tidal watershed subject to the bacteria TMDL.

Documentation and Measure of Effectiveness: The City will summarize all activities and report on the number of brochures and post cards distributed to City residents. The City will assess whether additional dog exercise area kiosks are warranted based on usage.

BMP 1H – Letter to Lawn Care, Carpet and Duct Cleaning, and Painting Businesses

During the last permit cycle, the City conducted an assessment of business activities with a high potential for improper disposal of waste materials. As a result of this process, the City identified lawn care, carpet and duct cleaning, and painting businesses. The City sent a letter to each business describing the City's program and enforcement authority. Also included in each letter

was a brochure entitled "Alternatives to Dumping" with information aimed specifically at businesses and industries. The City will update the mailing list and resend the information to targeted businesses.

Objectives and Expected Results: The goal of providing information on how to reduce pollutants and the legal ramifications for illegal discharges is to encourage behavior that reduces the amount of pollutants coming from these businesses and industries.

Responsible Party: TE&S-OEQ.

Implementation and Schedule: During PY3, the City will send an additional round of letters and brochures to targeted businesses.

Documentation and Measure of Effectiveness: The City will continue to consider whether additional businesses should be targeted and whether there are more effective means of reaching out to these businesses. In the PY3 annual report, the City will provide the letter to targeted businesses and the "Alternatives to Dumping" brochure.

BMP 1I – Education Concerning PCBs

The entire City is subject to a TMDL for PCBs as a result of contamination in the tidal portions of the Potomac River and its tributaries. Most of this contamination is the result of past pollution, since most uses of PCBs have been banned since the 1970s. Industries that have been identified by the Virginia Department of Environmental Quality as potential sources of residual PCBs include the following SICs: 26&27 (Paper and Allied Products), 30 (Rubber and Misc. Plastics), 33 (Primary Metal Industries), 34 (Fabricated Metal Products), 37 (Transportation Equipment), 49 (Electrical, Gas, and Sanitary Services), 5093 (Scrap Metal Recycling), and 1221&1222 (Bituminous Coal).

Objective and Expected Results: By distributing information to targeted businesses and industries on the proper identification, handling, and disposal of PCBs, the City intends to encourage behavior that will reduce the potential for any residual PCBs to enter the storm drain system.

Responsible Party: T&ES-OEQ.

Implementation and Schedule:

- By the end of PY2, the City will include a standard on all special use permits (SUPs) requiring a site characterization for PCBs during the redevelopment of a property where PCBs have been historically used or stored, or during the redevelopment of a property that falls into a VDEQ identified high risk category for PCBs.
- By the end of PY2, the City will develop a brochure related to PCBs. The brochure will be posed on the web site and provided to target industries during normal interactions (inspections, permit review, etc.) or during the redevelopment process.

Documentation and Measure of Effectiveness: The City will document efforts to educate targeted businesses and industry on BMPs to reduce PCBs in the environment. In the PY2 annual report, the City will provide the standard language used in all SUPs for redevelopment and a copy of the PCB education brochure.

BMP 1J – Outreach to Minorities

According to the 2000 Census, approximately 13% of City residents speak Spanish as their primary language. This represents the City's largest non-English speaking population group. The City has developed and distributed a bi-lingual brochure (English and Spanish) entitled "Las Actividades Diarias Pueden Contribuir a la Contaminacion de Aquas de Tormentas" to help educate Spanish-speaking residents on the importance of preventing stormwater pollution. In addition, the City has produced and distributed a bi-lingual version of the storm drain marker door hanger.

Objective and Expected Results: Bi-lingual public education and outreach materials will help ensure that the City's Spanish-speaking community receives information on pollution prevention efforts and that they can participate and be active in these efforts.

Responsible Party: T&ES-OEQ.

Implementation and Schedule:

- The City will continue to produce and distribute the bi-lingual brochures at appropriate events.
- During PY1, the City will produce a map showing high densities of Spanish-speaking residents using available U.S. Census data in order to allow the City to better target where bi-lingual materials will be useful.
- During PY4, the City will use new Census data to assess whether other languages are spoken in a frequency that would make it useful to product information in that language.

Documentation and Measure of Effectiveness: The City will provide a summary of all activities, including a list of community events where City staff has distributed bi-lingual stormwater education information, along with a discussion of how these efforts might be improved based on staff experiences.

MCM #2: Public Involvement and Participation
Permit Requirement: The operator shall comply with applicable state, tribal, and local public notice requirements and identify, schedule, implement, evaluate and modify, as necessary, BMPs to meet the following public involvement/participation measurable goals: a. Promote the availability of the operator's MS4 Program Plan and any modifications for public review and comment. Public notice shall be given by any method reasonably calculated to give actual notice of the action in question to the persons potentially affected by it, including press releases or any other forum or medium to elicit public participation. Provide access to or copies of the MS4 Program Plan or any modifications upon request of interested parties in compliance with all applicable freedom of information regulations. b. Provide access to or copies of the annual report upon request of interested parties in compliance with all applicable freedom of information regulations. c. Participate, through promotion, sponsorship, or other involvement, in local activities aimed at increasing public participation to reduce stormwater pollutant loads and improve water quality.

BMP 2A – Public Notice and Participation

The City is committed to meeting all public notice requirements for City Council meetings regarding the implementation of the VSMP permit. The City is committed to ensuring that citizens have an opportunity to review and comment on the MS4 Program Plan and the City's annual compliance reports.

Objective and Expected Results: Providing an opportunity for public input will allow the City to take advantage of the expertise of residents and ensure that stormwater management efforts enjoy community support. The City is also committed to complying with all local, state, and federal public notice requirements for local ordinances or legislative actions related to the stormwater management program.

Responsible Party: The City Clerk of Council ensures compliance with all public notice requirements. T&ES-OEQ will take the lead on providing materials for release.

Implementation and Schedule:

- The City will meet all legal obligations with respect to public notice and comment regarding the stormwater management program and permit requirements.
- The City will conduct a public information meeting on the draft MS4 Program Plan and provide adequate public notice of the meeting.
- The City will post the final MS4 Program Plan on the web site.
- The City will post the final annual reports on the web site and distribute to the Environmental Policy Commission.

Documentation and Measure of Effectiveness: The City will provide minutes of any actions taken by the City Council and a summary of public comments received during the public information meeting on the draft MS4 Program Plan and draft annual reports. The City will provide documentation of public notices issued regarding the stormwater program and permit.

BMP 2B – Staff Support and Annual Water Quality Update to the EPC

T&ES-OEQ provides ongoing staff support to the Environmental Policy Commission in order to provide citizen/stakeholder input into the City's stormwater program. The EPC is appointed by the City Council and makes recommendations on environmental issues, including stormwater management.

Objective and Expected Results: Citizen/stakeholder input strengthens the overall program. The EPC provides valuable feedback regarding the City's stormwater management programs and helps to assess the effectiveness of different efforts from a citizen perspective.

Responsible Party: T&ES-OEQ.

Implementation and Schedule:

- TE&S-OEQ will continue to provide staff support to the EPC, which meets on a monthly basis.
- TE&S-OEQ will provide the EPC with an annual update on stormwater management program activities between May and September of each year.

Documentation and Measure of Effectiveness: The City will provide annual reports of the EPC (as available) along with relevant meeting minutes to document ongoing staff support. The City will document the annual EPC stormwater program update meeting and provide a summary of significant feedback, as appropriate.

BMP 2C – City Sponsorship of Earth Day

For many years, the City has sponsored the annual Alexandria Earth Day event. The event draws thousands of Alexandrians and provides them with an opportunity to learn about ways to protect their environment. Information can be found at www.alexearthday.org.

Objective and Expected Results: This well attended event serves to strengthen private environmental stewardship efforts and provides citizens with a broad range of environmentally-related educational opportunities.

Responsible Party: T&ES-OEQ serves at the City's primary point of contact for Alexandria Earth Day events.

Implementation and Schedule: The City will continue to actively sponsor and promote the annual Alexandria Earth Day.

Documentation and Measure of Effectiveness: The City will document its sponsorship of, and participation in, the Alexandria Earth Day event. Event organizers assess the success of the event each year and make changes as appropriate to ensure that the event is a success.

BMP 2D – City Promotion of Clean Up Events

The City is fortunate to have several non-profit organizations that enhance public involvement and clean the environment through local litter clean-up efforts. The City has partnered with

these organizations to promote these events through press releases and by placing links on the City's web page.

Objective and Expected Results: Increased involvement in stream and river clean up activities reduces pollution and encourages other residents to become more actively involved.

Responsible Party: T&ES-OEQ and RP&CA jointly support these efforts and develop press releases for the PIO.

Implementation and Schedule: The City will promote and/or sponsor non-profit stream and river clean ups through press releases and/or links to the City's web page.

Documentation and Measure of Effectiveness: The City will document its promotion of events in the annual report.

MCM #3: Illicit Discharge Detection and Elimination

Permit Requirement: The MS4 Program shall: a. Develop, implement and enforce a program to detect and eliminate illicit discharges, as defined at 4VAC50-60-10, into the regulated small MS4. The Department recommends that the operator review the publication entitled "Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments", for guidance in implementing and evaluating its illicit discharge detection and elimination program. b. Develop, if not already completed, and maintain, an updated storm sewer system map, showing the location of all known outfalls of the regulated small MS4 including those physically interconnected to a regulated MS4, the associated surface waters and HUCs, and the names and locations of all impaired surface waters that receive discharges from those outfalls. The operator shall also estimate the acreage within the regulated small MS4 discharging to each HUC and impaired water. c. To the extent allowable under state, tribal or local law or other regulatory mechanism, effectively prohibit, through ordinance, or other regulatory mechanism, nonstormwater discharges into the storm sewer system and implement appropriate enforcement procedures and actions. d. Develop and implement procedures to detect and address nonstormwater discharges, including illegal dumping, to the regulated small MS4. e. Prevent or minimize to the maximum extent practicable, the discharge of hazardous substances or oil in the stormwater discharge(s) from the regulated small MS4. In addition, the MS4 Program must be reviewed to identify measures to prevent the recurrence of such releases and to respond to such releases, and the program must be modified where appropriate. This permit does not relieve the operator or the responsible part(ies) of any reporting requirements of 40 CFR Part 110 (2001), 40 CFR Part 117 (2001) and 40 CFR Part 302 (2001) or §62.1-44.34:19 of the Code of Virginia. f. Track the number of illicit discharges identified, provide narrative on how they were controlled or eliminated, and submit the information in accordance with Section II.E.3. g. Notify, in writing, any downstream regulated MS4 to which the small regulated MS4 is physically interconnected of the small regulated MS4's connection to that system.

BMP3A – Nuisance Abatement Hotline and Web Based Reporting Form

The City has established a 24-hour Nuisance Abatement Hotline (703-836-0041) for citizens and staff to report suspected illicit discharges. The Nuisance Abatement Hotline is highlighted on the City's web site and the City's pollution prevention brochures. In addition, TE&S maintains a web-based problem reporting form that can be used by citizens to report suspected illicit discharges and other environmental concerns.

Objective and Expected Results: The purpose of the Nuisance Abatement Hotline and the web-based reporting form is to empower residents to report potential stormwater pollution or illicit discharges.

Responsible Party: T&ES-OEQ and DIT.

Implementation and Schedule: The City will maintain the Nuisance Abatement Hotline and the web-based reporting form. The City will continue to promote the availability of these tools through the web site and education and outreach brochures.

Documentation and Measure of Effectiveness: The City will provide a snapshot of the Nuisance Abatement Hotline web page and the web based reporting form. The City will report the number and types of incidents handled through these two mechanisms.

BMP3B – Household Hazardous Waste (HHW) Program

Household hazardous waste has been identified by the City as a significant potential source of illicit discharges to the storm sewer system. The City has a long-standing HHW program called "Stop Throwing Out Pollutants." In addition to HHW, the program also accepts used oil, antifreeze, and other automotive fluids. The City produces a brochure that provides information on the types of materials that may be left at S.T.O.P. program drop-off points. The information is also available on the City's web site.

Objective and Expected Results: The HHW program reduces illegal dumping by providing residents with an opportunity to properly dispose of hazardous household waste materials and used oil, antifreeze, and automotive fluids.

Responsible Party: Alexandria Office of Recycling.

Implementation and Schedule: The City will continue to provide HHW collection services to all residents. In addition, the City will continue to produce and distribute materials promoting the program, including the S.T.O.P. brochure and the web site.

Documentation and Measure of Effectiveness: The City will provide copies of the S.T.O.P. program web site and brochure, track and report the number of residents taking advantage of the City's program, and report the number of barrels of HHW accepted by the City. The City will report on any efforts by the Office of Recycling to enhance program effectiveness.

BMP 3C – Prohibition on Illicit Discharges

In 2004, the City Attorney determined that the City's existing enforcement and right-of-entry tools meet VSMP permit requirements. These are found in Title 11, Chapter 13 of the City Code "Environmental Offenses."

Objective and Expected Results: This measure ensures that the legal tools are in place to effectively prohibit illicit discharges to the storm sewer system and to conduct necessary enforcement in the case of an illicit discharge.

Responsible Party: The City Attorney's office is responsible for periodically reviewing the City Code. T&ES-OEQ and the Code Enforcement Bureau provide necessary support.

Implementation and Schedule: This BMP is continuously implemented. The City Attorney has reviewed the City Code in the context of the new permit requirements and has determined that no additional changes are required.

Documentation and Measure of Effectiveness:

- The City has adopted appropriate enforcement and right-of-entry provisions in the City Code.
- The City will report the number of illicit discharges detected and provide a narrative on how the discharges were controlled or eliminated.
- After a significant enforcement activity, or where a pattern of illicit discharges indicates the need for more rigorous enforcement, the City will review policies, procedures, and ordinances and make recommendations for program enhancements as appropriate.

BMP 3D – Illicit Disposal Hazards Education for City Employees

A bullet point entitled "Illicit Discharges and Dumping to the Storm Drain System" has been added to the "My City" program (see BMP 6D). This information is discussed at new employee orientation and is also included on the City's intranet. T&ES-OEQ provides pollution prevention training on an annual basis to T&ES-Maintenance staff (see BMP 6E). Finally, the City has developed a brochure for all City operational employees that is available on the web site and is distributed at appropriate events.

Objective and Expected Results: City employees are essential partners in ensuring that City operations do not contribute to stormwater pollution. The objective of this measure is to help employees identify potential illicit discharges while out in the field or simply out in the community.

Responsible Party: T&ES-OEQ with the assistance of T&ES-Maintenance.

Schedule and Implementation: This BMP is continuously implemented. The City will continue to incorporate illicit discharge and dumping prevention education during new employee orientation and T&ES-OEQ staff will continue to provide pollution prevention training to T&ES-Maintenance staff on an annual basis.

Documentation and Measure of Effectiveness: The City will provide a copy of information provided to new employees and T&ES-Maintenance staff as part of the City's annual report.

BMP 3E – Mapping of All Permitted Stormwater Discharges

The City has obtained information from the Virginia Department of Environmental Quality on all permitted stormwater discharges in the City and has incorporated the information into the City's GIS. This provides field operations staff with a visual tool for identifying permitted and non-permitted discharges.

Objective and Expected Results: The purpose of this effort is to provide the City with the ability to quickly identify and better monitor permitted discharges. It also provides field staff with a tool to quickly identify and pursue potential illicit discharges.

Responsible Party: Information will be kept at T&ES-OEQ and distributed to field staff on a periodic basis. DP&Z will be responsible for updating the GIS layer.

Implementation and Schedule: The City will make annual requests to VDEQ to provide updated information and incorporate changes into the GIS layer.

Documentation and Measure of Effectiveness: The City will provide an up-to-date map and the list of State-permitted stormwater discharges within the City limits.

BMP 3F – Prohibition of Outdoor Cleaning of Restaurant Equipment

The City has included as a standard on all special use permits (SUPs) issued for restaurant facilities a prohibition against outdoor cleaning of equipment and the deposition of cooking residue into the storm drain system.

Objective and Expected Result: Outdoor cleaning of restaurant equipment has been identified by the City as a potential source of stormwater pollution. Prohibiting outdoor cleaning of equipment will reduce the likelihood that cooking residue will enter the storm drain system.

Responsible Party: DP&Z is responsible for ensuring compliance with the overall special use permit approval process, with review assistance from T&ES-OEQ.

Implementation and Schedule: This BMP is continuously implemented for all special use permits issued for restaurant facilities.

Documentation and Measure of Effectiveness: All SUPs will contain the appropriate prohibition against outdoor cleaning of restaurant equipment and the deposition of restaurant cooking residue into the storm drain system. The City will include a sample SUP (if one was approved during the year) in each annual report.

BMP 3G – Storm Sewer System Map

The City has developed a storm sewer system map showing all features required in the VSMP permit, including all stormwater outfalls discharging to the waters of the Commonwealth, pipes, catch basins, and inlets. There are 425 total outfalls in the City. The new permit also imposes a requirement for the City to identify physical interconnections with other regulated MS4s and notify in writing any downstream regulated MS4 to which the City is physically interconnected.

Objective and Expected Results: This measure ensures that the City has a full understanding of the storm drain system and also enables the City to conduct outfall reconnaissance as required in the VSMP permit and described in BMP 3H.

Responsible Party: T&ES-DES and T&ES-Engineering work cooperatively to maintain the storm sewer system map.

Implementation and Schedule:

- The City will maintain an up-to-date storm sewer system map.
- By the end of PY2, the City will identify and map physical interconnections with neighboring MS4s (including Fairfax County, Arlington County, and VDOT).
- During PY3, the City will notify neighboring MS4s in writing of the presence of downstream interconnections.

Documentation and Measure of Effectiveness: The City will continuously collect any new data and record updates to the City's storm sewer outfall map. The City will provide a summary of annual activities regarding map updates and will provide a copy of the City's storm sewer outfall map. The City will include as part of its PY2 annual report a map of physical interconnections. In the PY3 annual report the City will provide a copy of the letter to neighboring MS4s.

BMP 3H – Outfall Reconnaissance

During the first permit cycle, the City conducted dry-weather monitoring of all of the City's outfalls in order to identify and prioritize potential illicit discharges. The new permit imposes specific outfall reconnaissance requirements on the City due to WLAs assigned under the bacteria and PCB TMDLs.

Objective and Expected Results: The purpose of this BMP is to detect and eliminate illicit discharges as required by the City's VSMP permit, with a specific focus on detection and elimination of TMDL WLA pollutants of concern.

Responsible Party: T&ES-OEQ.

Implementation and Schedule:

- As described in Section C, the City must perform reconnaissance on outfalls using a schedule consistent with the permit regulations. For a full permit cycle, the City would need to inspect a total of 393 (out of 425) outfalls. However, the City has until January 9, 2010 to determine a final schedule and implement the reconnaissance methodology. As a result, 275 (70% of 393 outfalls) must be inspected during this permit cycle. The following is a preliminary schedule based on a start date of January 9, 2010. The City will re-evaluate this schedule before the start date and will send notice to the Department of Conservation and Recreation if the City determines that the schedule needs to be modified.

Permit Year	PL25- Four Mile Run Outfalls	PL28 - Direct Potomac Outfalls	PL26- Cameron Run Outfalls
PY1	0	0	0
PY2	14	2	25
PY3	26	2	50
PY4	26	2	50
PY5	26	2	50
Total	**92**	**8**	**175**

- The City is only required to conduct reconnaissance on 175 out of the 288 outfalls in Cameron Run (PL26). During PY1, the City will conduct an evaluation using past complaints and zoning to determine which of the 288 outfalls will be monitored.

Documentation and Measure of Effectiveness: The City will summarize all outfall monitoring activities in the annual report, including the total number of outfalls inspected. The City will track the number of potential and actual illicit discharges identified, provide a narrative on how they were controlled or eliminated, and submit this information in the annual report.

BMP 3I – High Risk Facility Evaluation for Bacteria and PCBs

The VSMP permit requires the City to evaluate all properties owned or operated by the City for potential sources of TMDL wasteload allocations. As a result, the City must perform this evaluation for PCBs for all properties. The evaluation is only required in the non-tidal portion of the Four Mile Run watershed for bacteria.

Objective and Expected Results: This measure is a required component of the City's VSMP permit and will help ensure that PCBs and bacteria from publicly-owned properties and facilities are controlled to the maximum extent practicable.

Responsible Party: T&ES-OEQ, with the cooperation of RP&CA.

Implementation and Schedule:

- During PY1, T&ES-OEQ will compile a list of all City owned and operated facilities.
- During PY2:
    - The City will assess all City owned and operated facilities for whether PCBs are currently stored, or have been transferred, transported, or historically disposed in a manger that would expose it to precipitation.
    - The City will assess City owned and operated facilities in the non-tidal portion of the Four Mile Run watershed for whether fecal coliform bacteria is currently stored, or has been transferred, transported, or historically disposed in a manner that would expose it to precipitation.
    - Based on the above, the City will create a list of "high risk facilities" for further evaluation.
- During PY3 and PY4, the City will conduct a site review and characterization for all high risk facilities to determine whether any facilities are a source of the TMDL WLA pollutant of concern. This site review and characterization will include taking a total of two samples from a representative outfall of each identified municipal property in accordance with the requirements of the VSMP permit.
- During PY5, for any property where there is found to be a discharge of the TMDL WLA pollutant of concern, the City will develop and implement a schedule to minimize the discharge of the pollutant identified in the WLA in a manner consistent with the approved TMDL. This schedule will be incorporated into the next MS4 Program Plan.

Documentation and Measure of Effectiveness: As part of the annual report, the City will provide DCR with the outcomes of all evaluations and monitoring, as well as any follow-up implementation schedules, in accordance with the above schedule.

BMP 3J – Estimate of WLA Discharge for Bacteria and PCBs

The VSMP permit requires the City to estimate the volume of stormwater discharged, in cubic feet, and the quantity of pollutant identified in the WLA, in a unit consistent with the WLA discharged by the regulated small MS4 for each WLA.

Responsible Party: T&ES-DES.

Implementation and Schedule:

- During PY1, the City will work with the Department of Conservation and Recreation to determine the best methodology for estimating the information required in the permit. Based on this methodology, the City will report the WLA discharge for PCBs and bacteria annually.

Documentation and Measure of Effectiveness: The required information will be reported in each annual report.

MCM #4: Construction Site Stormwater Runoff Control

Permit Requirement: a. The operator shall develop, implement, and enforce procedures to reduce pollutants in any stormwater runoff to the regulated small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre or equal to or greater than 2,500 square feet in all areas of the jurisdictions designated as subject to the Chesapeake Bay Preservation Area Designation and Management Regulations adopted pursuant to the Chesapeake Bay Preservation Act. Additionally, reduction of stormwater discharges from construction activity disturbing less than one acre must be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. Procedures must include the development and implementation of, at a minimum: (1) An ordinance or other mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance with the Erosion and Sediment Control Law and attendant regulations, to the extent allowable under state, tribal, or local law. Such ordinances and other mechanisms shall be updated as necessary. (2) Requirements for construction site owners/operators to implement appropriate erosion and sediment control best management practices as part of an erosion and sediment control plan that is consistent with the Erosion and Sediment Control Law and attendant regulations and other applicable requirements of state, tribal, or local law. Where determined appropriate by the operator, the operator shall encourage the use of structural and non-structural design techniques to create a design that has the goal of maintaining or replicating predevelopment runoff characteristics and site hydrology. (3) Requirements for construction site owners/operators to secure authorization to discharge stormwater from construction activities under a VSMP permit for construction activities that result in a land disturbance of greater than or equal to one acre or equal to or greater than 2,500 square feet in all areas of the jurisdictions designated as subject to the Chesapeake Bay Preservation Area Designation and Management Regulations adopted pursuant to the Chesapeake Bay Preservation Act. Additionally, reduction of stormwater discharges from construction activity disturbing less than one acre must be included in the procedures if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. 4) Procedures for receipt and consideration of information submitted by the public. (5) Procedures for site inspection and enforcement of control measures. b. The operator shall ensure that plan reviewers, inspectors, program administrators and construction site owners/operators obtain the appropriate certifications as required under the Erosion and Sediment Control Law. c. The operator shall track regulated land-disturbing activities and submit the following information in accordance with Section II E 3: (1) Total number of regulated land-disturbing activities; and (2) Total disturbed acreage.

BMP 4A – Maintain DCR Erosion and Sediment Control Program Consistency

The Department of Conservation and Recreation performed a review of the City's Erosion and Sediment Control Program in December 2006. After minor modifications, the City was determined to be fully consistent with the Virginia Erosion and Sediment Control Regulations.

Objective and Expected Results: The VSMP permit requires the City to obtain a rating of "consistent" with the Virginia Erosion and Sediment Control Regulations. Achieving consistency ensures that construction and land disturbing activities contribute as little as possible to stormwater pollution.

Responsible Party: T&ES-OEQ and T&ES-C&I.

Implementation and Schedule: The City will continue to implement the Erosion and Sediment Control Program consistent with State regulations.

Documentation and Measure of Effectiveness The effectiveness of the City's program is measured by consistency with State regulations as determined by staff from the Department of Conservation and Recreation. Should differences be identified, the City will take action to address.

BMP 4B – VSMP Permits for Construction Activities

The VSMP permit requires the City to ensure that all construction site owners and operators secure a separate VSMP stormwater permit for construction activities. To meet this requirement, the City previously incorporated language into its plan review checklist to alert those proposing a land disturbing activity that all permits must be in place prior to release of the final site plan. The City must also develop a mechanism to confirm that the required stormwater construction permit was in fact obtained.

Objective and Expected Result: This measure implements the requirement of the VSMP permit that the City must ensure that all construction site owners and operators secure a separate VSMP stormwater permit for construction activities.

Responsible Party: T&ES-OEQ is responsible for implementing this BMP with support from the TE&S-C&I and the Code Enforcement Bureau.

Implementation and Schedule:

- The City will continue to include language in its plan review checklist on the need for a construction site owner/operator to obtain a stormwater permit for construction activities.
- During PY1, the City will modify the language in the plan review checklist to specify that a copy of the stormwater construction permit must be on site within 45 days of the beginning of construction.
- During PY1, the City will add an item to the checklist used by T&ES-C&I staff during site visits to verify the presence of the stormwater construction permit.

Documentation and Measure of Effectiveness: The City will provide DCR with a copy of the modified checklists during the first annual report.

BMP 4C – Citizen Complaint Reporting Mechanism

All E&SC and other water quality complaints are entered into the City's "Permit Plan" software database. This activity supports the Nuisance Abatement Hotline and web based reporting form in BMP 3A.

Objective and Expected Results: The purpose of this activity is to ensure that all complaints are logged into a central database so that staff can follow up with complaints and identify and track trends.

Responsible Party: T&ES-OEQ maintains the "Permit Plan" database, with data collection responsibility shared with T&ES-C&I.

Implementation and Schedule: The City will continue to maintain a database log for tracking the disposition of stormwater and E&SC complaints.

Documentation and Measure of Effectiveness: The City will provide a summary of program implementation and a summary of all complaints from the most recent year reporting year.

BMP 4D – Land Disturbing Activities Tracking System

Land disturbing activities are tracked by T&ES-Engineering through the plan review process. The information is recorded and logged by the Site Plan Coordinator when final approved plan mylars and plot plans are released. Reports are sent to T&ES-OEQ, which are entered into a spreadsheet and provided to DCR on a monthly basis.

Objective and Expected Results: The purpose of this BMP is to ensure that all required data needed to be reported to DCR is adequately and accurately tracked.

Responsible Party: T&ES-Engineering is responsible for tracking and recording land disturbing activities, while T&ES-OEQ is responsible for providing the information to the Department of Conservation and Recreation.

Implementation and Schedule: The City will continue to maintain a database log for tracking all land disturbing activities in accordance with permit requirements. All land disturbing activities will be entered into the City's ASIST MS4 Professional database.

Documentation and Measure of Effectiveness: The City will provide a spreadsheet summarizing total land disturbing projects and total disturbed acres, annually for the most recent reporting year.

MCM #5: Post Construction Stormwater Management

Permit Requirement: a. The operator shall develop, implement, and enforce procedures to address stormwater runoff to the regulated small MS4 from new development and redevelopment projects that disturb greater than or equal to one acre or equal to or greater than 2,500 square feet in all areas of the jurisdictions designated as subject to the Chesapeake Bay Preservation Area Designation and Management Regulations adopted pursuant to the Chesapeake Bay Preservation Act, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into the regulated small MS4. The procedures must ensure that controls are in place that would prevent or minimize water quality and quantity impacts in accordance with this section. b. The operator shall: (1) Develop and implement strategies which include a combination of structural and/or nonstructural best management practices (BMPs) appropriate for the operator's community. Where determined appropriate by the operator, the operator shall encourage the use of structural and non-structural design techniques to create a design that has the goal of maintaining or replicating predevelopment runoff characteristics and site hydrology. (2) Use an ordinance , regulation, or other mechanism to address post-construction runoff from new development and redevelopment projects to ensure compliance with the Virginia Stormwater Management Act and attendant regulations, and to the extent allowable under state, tribal or local law. Such ordinances and other mechanisms shall be updated as necessary. (3) Require construction site owners/operators to secure authorization to discharge stormwater from construction activities under a VSMP permit for new development and redevelopment projects that result in a land disturbance of greater than or equal to one acre or equal to or greater than 2,500 square feet in all areas of the jurisdictions designated as subject to the Chesapeake Bay Preservation Area Designation and Management Regulations adopted pursuant to the Chesapeake Bay Preservation Act. Additionally, reduction of stormwater discharges from construction activity disturbing less than one acre must be included in the procedures if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. (4) Require adequate long-term operation and maintenance by the owner of structural stormwater management facilities through requiring the owner to develop a recorded inspection schedule and maintenance agreement to the extent allowable under state, tribal or local law or other legal mechanism. The operator shall additionally develop, through the maintenance agreement or other method, a mechanism for enforcement of maintenance responsibilities by the operator if they are neglected by the owner. (5) Conduct site inspection and enforcement measures consistent with the Virginia Stormwater Management Act and attendant regulations. (6) Track all known permanent stormwater management facilities that discharge to the regulated small MS4 and submit the following information in accordance with Section II E 3: (a) Type of structural stormwater management facility installed as defined in the Virginia Stormwater Management Handbook; (b) Geographic location (HUC); (c) Where applicable, the impaired surface water that the stormwater management facility is discharging into; and (d) Number of acres treated.

BMP 5A – BMP Data Tracking System

All BMPs in the City are tracked using the ASIST MS4 Professional software. Information tracked includes the type of BMP, location, discharging water body, permit number, drainage area, and number of acres treated.

Objective and Expected Results: The purpose of this BMP is to continue to maintain a database log for tracking all BMPs in accordance with permit requirements and to enable the City to understand what areas of the City are being treated.

Responsible Party: T&ES-OEQ.

Implementation and Schedule:

- The City will continue to ensure that all new BMPs are entered into the City's ASIST MS4 Professional database.
- During PY1, the City will modify the database to include the impaired surface water that the stormwater facility is discharging into.

Documentation and Measure of Effectiveness: The City will provide a spreadsheet of all BMPs entered in the past year along with information on the type of BMP, location, discharging impaired water body, permit number, and drainage area.

BMP 5B – Implement BMP Maintenance Agreements

The City has created a process to ensure that development plans cannot be finalized without an executed BMP maintenance agreement. T&ES-OEQ staff review the agreement and ensure the information is correct. The information is then entered into an Access database. The City has also created a BMP maintenance vendors list for use by facility owners and operators.

Objective and Expected Results: Legally executed and enforced maintenance agreements help ensure that structural BMPs continue to provide their intended water quality functions.

Responsible Party: T&ES-OEQ is responsible for ensuring that BMP maintenance agreements are executed and enforced. The City Clerk of the Circuit Court is responsible for actually filing the agreements with the appropriate land records.

Implementation and Schedule: The City will continue to ensure that all BMPs have legally executed BMP maintenance agreements. All plans are tracked to ensure that appropriate BMP maintenance agreements are executed.

Documentation and Measure of Effectiveness: The City will confirm ongoing compliance with this requirement and provide a sample properly executed BMP maintenance agreement.

BMP 5C – Implement Environmental Management Ordinance

The City leverages its Environmental Management Ordinance, established under the Chesapeake Bay Preservation Area Designation and Management Regulations, to effectively reduce the impacts of pollution from post-construction runoff to the maximum extent practical. The City's ordinance was found consistent by the Chesapeake Bay Local Assistance Board on June 19, 2006. Furthermore, after a review of the entire program, the Chesapeake Bay Local Assistance Board found the City to be in full compliance with the Act and Regulations on September 6, 2007.

Objective and Expected Results: The Environmental Management Ordinance ensures that post-construction runoff is controlled to the maximum extent practicable in accordance with permit requirements.

Responsible Party: T&ES-OEQ has primary responsibility for ensuring City consistency with the Chesapeake Bay Preservation Area Designation and Management Regulations.

Implementation and Schedule: The City will continue to implement a stormwater management program that is compliant with the Chesapeake Bay Preservation Area Designation and

Management Regulations through the City's Environmental Management Ordinance. Based on CBLAB's review, the City does not propose any modifications to this BMP. Should a subsequent review by CBLAB reveal any deficiencies, the City will amend its program accordingly.

Documentation and Measure of Effectiveness: The City will provide in the annual report the latest program review and resolution of consistency by the Chesapeake Bay Local Assistance Board.

BMP 5D – Evaluate BMP Design Guidelines

As part of the first permit term, T&ES-OEQ staff evaluated the City's structural BMP design guidelines and performance standards and found them consistent with the Environmental Management Ordinance. These guidelines and standards are contained in the Northern Virginia Regional Commission's Northern Virginia BMP Handbook as well as the Alexandria Supplement to the Northern Virginia BMP Handbook. In addition, the City of Alexandria is currently working with NVRC to develop a supplement to the Northern Virginia BMP Handbook for Low Impact Development (LID) techniques.

Objective and Expected Results: It is important to ensure that the City's BMP design guidelines are periodically assessed to ensure that they are consistent with the Environmental Management Ordinance and the requirements of the Virginia Stormwater Management Regulations. This is particularly true as the professional body of knowledge on urban stormwater management continues to change.

Responsible Party: T&ES-OEQ and T&ES-Engineering.

Implementation and Schedule: The City will continue to evaluate BMP guidelines and amend them as necessary. The City will also continue to work with NVRC to adopt regional design and performance standards for LID. The schedule for this is dependent on review of draft documents and review by State staff for consistency with Virginia's Stormwater Management Regulations.

Documentation and Measure of Effectiveness: The City will provide a summary of any changes to its design and performance standards and will provide a status report on the effort to incorporate LID into the Northern Virginia BMP Handbook and ultimately implemented by the City.

BMP 5E – BMP Facility Inspection and Enforcement

As of 2008, City staff has inspected nearly all of its private and public BMPs at least once and is now re-inspecting facilities that were originally inspected in 2006. There are currently about 400 facilities in the City of Alexandria. In addition, the City distributes a brochure to property owners with BMP responsibilities as part of its education and outreach efforts.

Objective and Expected Results: Maintenance of public and private BMP facilities is essential to ensuring that these investments continue to provide their intended water quality benefits.

Responsible Party: T&ES-OEQ is responsible for this effort.

Implementation and Schedule: The VSMP permit regulations require the City to implement a BMP inspection program based on the Virginia Stormwater Management Regulations. These regulations are expected to change in the next few years, and the City's implementation plan will be reassessed at that time. Based on the existing regulations, the City will implement an alternative inspection program in accordance with the following:

- The City will inspect each BMP facility at least once during the permit period and take follow-up and/or enforcement action as necessary. The City will send out a pre-inspection and a post-inspection letter to each facility. The post-inspection letter will include needed maintenance actions and a timetable for compliance.
- During PY5, based on the results of inspections, the City will create a list of facilities that require inspections on a more frequent basis. This list will be developed based on maintenance history, willingness of the owner to document maintenance, and the needs of the specific BMP type as documented in standard resource materials such as the Virginia Stormwater Management Handbook and the Northern Virginia BMP Maintenance Guide.
- Facilities that are placed on the above list will be inspected according to the needs of the specific facility, but will be inspected at least once during each permit cycle.

Documentation and Measure of Effectiveness: The City will document the number of BMPs inspected each year and provide statistics on the number of facilities for which follow-up enforcement action was required. At the end of PY5, the City will provide a list of BMPs placed on the alternative inspection schedule list and will document the criteria used for determining placement and the inspection schedule.

MCM #6: Pollution Prevention and Good Housekeeping

Permit Requirement: Develop and implement an operation and maintenance program consistent with the MS4 Program Plan that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations. Using training materials including those available from EPA, state, tribe, or other organizations, the program shall include employee training to prevent and reduce stormwater pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and MS4 maintenance. The operator is encouraged to review the Environmental Protection Agency's (EPA's) National Menu of Stormwater Best Management Practices for ideas and strategies to incorporate into its program. The operator shall identify, implement, evaluate and modify, as necessary, best management practices (BMPs) to meet the following pollution prevention/good housekeeping for municipal operations measurable goals: (1) Operation and maintenance programs including activities, schedules, and inspection procedures shall include provisions and controls to reduce pollutant discharges into the regulated small MS4 and receiving surface waters. (2) Illicit discharges shall be eliminated from storage yards, fleet or maintenance shops, outdoor storage areas, rest areas, waste transfer stations, and other municipal facilities. (3) Waste materials shall be disposed of properly. (4) Materials that are soluble or erodible shall be protected from exposure to precipitation. (5) Materials, including but not limited to fertilizers and pesticides, that have the potential to pollute receiving surface waters shall be applied according to manufacturer's recommendations. (6) For state agencies with lands where nutrients are applied, nutrient management plans shall be developed and implemented in accordance with the requirements of §10.1-104.4 of the Code of Virginia.

BMP 6A – Environmental Coordination Group

In 2004, the City established an Environmental Coordination Group (ECG) in accordance with the Water Quality Supplement of the City's Master Plan and to meet VSMP permit requirements. The ECG meets at least three times annually to discuss environmental issues that cut across City agencies and departments.

Objective and Expected Results: The purpose of the ECG is to ensure coordination and communication among the City's different departments, divisions, and agencies on water quality and other environmental objectives.

Responsible Party: T&ES-OEQ is the lead agency for coordinating ECG meetings.

Implementation and Schedule: The ECG will continue to meet at least three times annually to discuss and coordinate City-wide environmental and stormwater issues.

Documentation and Measure of Effectiveness: The City will provide ECG meeting agendas in the annual report.

BMP 6B – Street Sweeping and Leaf Collection Program

The City has a robust street sweeping program, with typically more than 25,000 lane miles swept each year. The City employs 17 full time employees for street cleaning. Seasonal employees are hired for leaf collection.

Objective and Expected Results: Street sweeping plays a significant role in pollution prevention by keeping trash, particulates, and organic matter from entering the storm drain system.

Responsible Party: T&ES-Maintenance is responsible for implementing the street sweeping and leaf collection programs.

Implementation and Schedule: The City will continue to provide street sweeping and leaf collection services.

Documentation and Measure of Effectiveness: The City will report street sweeping and leaf collection statistics, including equipment, staff, and program metrics such as cubic yards of materials collected and lane miles swept. The City is in the process of re-assessing the effectiveness of the leaf collection program and will report on the results of any evaluation or changes in the annual reports.

BMP 6C – Catch Basin and Inlet Cleaning Program

The City has a long-standing program to inspect and clean stormwater catch basins and inlets. Catch basin cleaning varies year by year depending on the weather.

Objective and Expected Results: The catch basin and inlet cleaning program is meant to both reduce spot flooding and drainage problems as well as to prevent materials, including floatables and vegetative debris, captured in inlets from continuing to local streams.

Responsible Party: T&ES-Maintenance is responsible for implementing the City's catch basin and inlet cleaning program.

Implementation and Schedule: The City will continue catch basin and inlet cleaning operations without significant change.

Documentation and Measure of Effectiveness: The City will report catch basin and inlet cleaning statistics, including equipment and the level of staff effort.

BMP 6D – "My City" Program

The "My City" program was designed by the City to allow any employee to report problems, needs, and issues, including stormwater management issues, to the appropriate responding department or division in the City. Problems are reported by calling the "My City" hotline at (703) 519-8355. An "Illicit Discharges and Dumping to the Storm Drain System" bullet point has been added to the "My City" page on the City intranet. In addition to the "My City" program, T&ES produces and distributes a "Whose Job Is It?" brochure to all City staff. The brochure provides a one-page quick reference for reporting problems associated with City infrastructure.

Objective and Expected Results: One objective of the "My City" program is to empower all City staff to assist in pollution prevention and illicit discharge detection efforts.

Responsible Party:

- The City Manager's Office is responsible for the overall "My City" program with assistance from T&ES-Maintenance and General Services and T&ES-OEQ.

- T&ES is responsible for distributing the "Whose Job Is It?" brochure.

Implementation and Schedule The City will continue to implement the "My City" program, with a stormwater awareness component, and distribute the "Whose Job Is It?" brochure.

Documentation and Measure of Effectiveness: The City will document ongoing implementation of the "My City" program and any changes based on ongoing reviews by the City Manager's office.

BMP 6E –Pollution Prevention Training

The VSMP permit requires the City to develop and implement an operation and maintenance program that includes a training component and that has as its ultimate goal the prevention or reduction of pollutant runoff from municipal operations. Since 2004 the City has conducted stormwater pollution prevention training workshops for operations and maintenance employees.

Objective and Expected Results: The purpose of this BMP is to ensure that all municipal operations eliminate or reduce stormwater pollution to the maximum extent practicable.

Responsible Party: T&ES-OEQ will take the lead in providing training, with assistance a from T&ES-Maintenance and General Services.

Implementation and Schedule: Each year the City will provide training to operations and maintenance employees on pollution prevention and illicit discharges.

Documentation and Measure of Effectiveness: The City will document training activities as part of the annual reports.

BMP 6F –Pollution Prevention Protocols and Inspection

New permit requirements also focus on establishing schedules, inspection procedures, and protocols to reduce illicit discharges from municipal operations.

Objective and Expected Results: The purpose of this BMP is to ensure that all municipal services are managed in a manner to eliminate or reduce stormwater pollution to the maximum extent practicable.

Responsible Party: T&ES-OEQ will take the lead in developing protocols and conducting inspections, with assistance and cooperation from T&ES-Maintenance.

Implementation and Schedule: The City will establish schedules, inspection procedures, and protocols to reduce illicit discharges from municipal operations develop in accordance with the following:

- During PY1, the City will identify all storage yards, fleet and maintenance shops, outdoor storage areas, waste transfer stations, and other municipal facilities that have the potential for significant materials exposure.
- During PY1, the City will develop a checklist, similar to that used for implementation of an industrial Storm Water Pollution Prevention Plan (SWPPP).
- During PY2 and PY4, the City will inspect each facility at least once that was identified in PY1 and assure that the facility meets all requirements outlined in the VSMP permit.

Documentation and Measure of Effectiveness: The City will provide copies of the initial inspection procedures and protocols, as well as completed inspection forms annually.

BMP 6G – Fertilizer and Pesticide Management

Objective and Expected Results: Fertilizers and pesticides, if improperly applied, have the potential to pollute the City's streams, and ultimately the Potomac River and the Chesapeake Bay. By ensuring that City staff apply fertilizers and pesticides in accordance with manufacturer's recommendations, the City will reduce the likelihood of potential contamination.

Responsible Party: RP&CA and General Services.

Implementation and Schedule:

- During PY2, RP&CA and General Services will investigate what kind of training or certification is required to ensure that staff apply fertilizers and pesticides in accordance with manufacturer's recommendations. Training or certification will be implemented during PY3.
- The City will revise its procurement standards in PY3 to require that all contractors engaging in the application of fertilizers and/or pesticides abide by manufacturer's recommendations.

Documentation and Measure of Effectiveness: The City will document the training and/or certification chosen by RP&CA and General Services to ensure that fertilizers and pesticides are applied in accordance with manufacturer's recommendations. The City will also provide a copy of the revised procurement specifications for contractors.

E. Annual Report and Program Evaluation

The City will submit annual reports to the Department of Conservation and Recreation each year covering the period of July 1st through June 30th. The report will be submitted to DCR no later than October 1st. The information provided to DCR will be in accordance with the provisions of 4VAC50-60-1240 Section II.E.3. In addition, because the City has been assigned a TMDL WLA for PCBs and bacteria, the City will provide the following additional information in the annual reports:

- Copies of any updates to the MS4 Program Plan completed during the reporting cycle and any new information regarding the TMDL in order to evaluate its ability to assure the consistency of its discharge with the assumptions of the TMDL WLA.

- The estimate of the volume of stormwater discharged, in cubic feet, and the quantity of pollutant identified in the WLA, in a unit consistent with the WLA discharged by the regulated small MS4 for each WLA.

The City will re-evaluate goals, schedules, and strategies developed as part of the MS4 Program Plan to address TMDL pollutants of concern before January 9, 2010 and will send notice to the Department of Conservation and Recreation either affirming them or modifying them as necessary.

In addition to an annual evaluation of the effectiveness of BMPs during the annual reporting process, during Permit Year 5 the City will conduct a comprehensive evaluation of the entire program utilizing the U.S. EPA's "Municipal Stormwater Program Evaluation Guidance." The results of this evaluation will be utilized by the City when reapplying for permit coverage.

F. Schedule Summary

Table 3 is a general overview of the MS4 Program Plan implementation schedule. Table 4 provides a summary of specific BMPs used to implement the Minimum Control Measures.

Table 3. MS4 Program Plan General Implementation Schedule

PY	Annual Report	TMDL Requirements					MCMs	Evaluation
		MS4 Program Plan Assessment	High Risk Facility Plans	Outfall Reconnaissance				
	Report to DCR			PL25	PL28	PL26		
1			Compile list of City owned facilities.	0	0	0	See Table 4	
2	Oct 1	By Jan 9, 2010 provide final plan for meeting TMDL requirements.	Identify high risk facilities for more detailed evaluation.	14	2	25	See Table 4	
3	Oct 1		Conduct evaluations, including outfall sampling.	26	2	50	See Table 4	
4	Oct 1		Conduct evaluations, including outfall sampling.	26	2	50	See Table 4	
5	Oct 1		Develop schedule to address discharges, if any.	26	2	50	See Table 4	Conduct evaluation in accordance to EPA guidance.

Table 4. Summary of Minimum Control Measure Implementation Schedule

MCM #1 Implementation Schedule							
BMP	**Task**	**Year(s) to Implement**					**Responsibility**
		PY1	PY2	PY3	PY4	PY5	
1A	Update general education brochure.	■					TE&S-OEQ
	Distribute brochure at community events.	▶	▶	▶	▶	▶	TE&S-OEQ
	Include environmental/water quality article in FYI Alexandria.		▶	▶	▶	▶	TE&S-OEQ
	Continue participation in regional education programs.	▶	▶	▶	▶	▶	TE&S-OEQ
1B	Maintain stream crossing signs.	▶	▶	▶	▶	▶	T&ES-OEQ
1C	Implement cable TV text message and PSAs.	▶	▶	▶	▶	▶	T&ES-OEQ, PIO
1D	Implement stormwater BMP signage.	▶	▶	▶	▶	▶	T&ES-OEQ; P&Z
1E	Implement storm drain inlet marking.	▶	▶	▶	▶	▶	T&ES-OEQ; P&Z
1F	Host water quality web site.	▶	▶	▶	▶	▶	T&ES-OEQ; DIT
	Conduct comprehensive web site assessment and update accordingly.		■			■	T&ES-OEQ; DIT
1G	Distribute pet waste brochure and post cards at appropriate events.	▶	▶	▶	▶	▶	T&ES-OEQ
	Distribute pet waste brochure at the animal shelter.	▶	▶	▶	▶	▶	T&ES-OEQ; Animal Shelter
	Implement kiosk at Fort Ward Dog Exercise Area.				■		T&ES-OEQ; PR&CA
1H	Send letter and brochure to businesses with high potential for improper disposal of waste.			■			T&ES-OEQ
1I	Incorporate standard in all SUPs for redevelopment regarding PCBs.		■				T&ES-OEQ
	Develop PCB education brochure for businesses and industry.		■				T&ES-OEQ
1J	Distribute bi-lingual brochures at appropriate events.	▶	▶	▶	▶	▶	T&ES-OEQ
	Produce map of Spanish-speaking areas to help target materials.	■					T&ES-OEQ
	Use new Census data to assess need for brochures in other languages.				■		T&ES-OEQ

MCM #2 Implementation Schedule							
BMP	**Task**	**Year(s) to Implement**					**Responsibility**
		PY1	PY2	PY3	PY4	PY5	
2A	Meet all public notice requirements.	▶	▶	▶	▶	▶	T&ES-OEQ
	Conduct public information meeting on draft MS4 Program Plan.	■					T&ES-OEQ; PIO
	Post final MS4 Program Plan on web site.	■					T&ES-OEQ
	Post annual reports on web site.	▶	▶	▶	▶	▶	T&ES-OEQ
2B	Provide staff support to the Environmental Policy Commission.	▶	▶	▶	▶	▶	T&ES-OEQ
	Provide annual water quality update to the EPC.	▶	▶	▶	▶	▶	T&ES-OEQ
2C	Sponsor annual Alexandria Earth Day.	▶	▶	▶	▶	▶	T&ES-OEQ; RP&CA
2D	Promote clean up events by non-profits.	▶	▶	▶	▶	▶	T&ES-OEQ; RP&CA
MCM #3 Implementation Schedule							
BMP	**Task**	**Year(s) to Implement**					**Responsibility**
		PY1	PY2	PY3	PY4	PY5	
3A	Maintain Nuisance Abatement Hotline and web based reporting form.	▶	▶	▶	▶	▶	T&ES-OEQ; DIT
3B	Provide HHW and used oil collection services.	▶	▶	▶	▶	▶	Office of Recycling
3C	Enforce prohibition on illicit discharges (Chapter 13 of City Code).	▶	▶	▶	▶	▶	T&ES-OEQ; City Attorney; Code Enf.
3D	Provide new and existing staff with pollution prevention information through the “My City” program.	▶	▶	▶	▶	▶	T&ES-OEQ; T&ES-Maintenance
3E	Keep map of permitted stormwater discharges up-to-date and distribute to field crews.	▶	▶	▶	▶	▶	T&ES-OEQ; T&ES-Maintenance; DP&Z
3F	Enforce prohibition on outdoor cleaning of restaurant equipment.	▶	▶	▶	▶	▶	T&ES-OEQ; DP&Z
3G	Maintain an up-to-date storm sewer map.	▶	▶	▶	▶	▶	T&ES-OEQ; T&ES-Engineering
	Identify and map physical interconnections with other MS4s.		■				T&ES-OEQ; T&ES-Engineering

	Notify neighboring MS4s of physical interconnections.			■			T&ES-OEQ
3H	Conduct outfall reconnaissance as required by permit.		►	►	►	►	T&ES-OEQ
	Prioritize outfalls to be inspected in Cameron Run.	■					
3I	Compile list of all City owned and operated facilities.	■					T&ES-OEQ
	Assess properties for sources of bacteria and PCBs and assign any "high risk" facilities.		■				T&ES-OEQ
	Conduct a site review and characterization for all "high risk" facilities.			■	■		T&ES-OEQ; Affected Properties
	Develop and implement schedules for minimizing any discharges discovered at "high risk" facilities.					■	T&ES-OEQ; Affected Properties
3J	Develop protocol for estimating WLA discharges to City streams and report to DCR.	■	►	►	►	►	T&ES-OEQ
MCM #4 Implementation Schedule							
BMP	**Task**	**Year(s) to Implement**					**Responsibility**
		PY1	PY2	PY3	PY4	PY5	
4A	Maintain E&SC program consistency with State regulations.	►	►	►	►	►	T&ES-OEQ; T&ES-C&I
4B	Require construction site owners/operators to obtain VSMP stormwater construction permits.	►	►	►	►	►	T&ES-OEQ
	Modify the plan review checklist.	■					T&ES-OEQ; DP&Z
	Modify the site compliance checklist.	■					T&ES-OEQ; TE&S-C&I
4C	Maintain citizen complaint tracking system.	►	►	►	►	►	T&ES-OEQ; T&ES-C&I
4D	Collect all required information on land disturbing activities.	►	►	►	►	►	T&ES-Engineering; T&ES-OEQ
MCM #5 Implementation Schedule							
BMP	**Task**	**Year(s) to Implement**					**Responsibility**
		PY1	PY2	PY3	PY4	PY5	
5A	Track BMP information required for reporting to the State.	►	►	►	►	►	T&ES-OEQ
	Update BMP database to include the impaired surface water that the	■					T&ES-OEQ;

	BMP discharges.						PIO
5B	Execute BMP maintenance agreements.	▶	▶	▶	▶	▶	T&ES-OEQ; Clerk of Circuit Court
5C	Implement the City's Environmental Management Ordinance.	▶	▶	▶	▶	▶	T&ES-OEQ
5D	Continue to evaluate BMP guidelines and incorporate into City documents as appropriate.	▶	▶	▶	▶	▶	T&ES-OEQ
5E	Inspect all stormwater BMP facilities for proper operation at least once during the permit period.	▶	▶	▶	▶	▶	T&ES-OEQ
	Create a list of BMPs that should be inspected more frequently and establish an inspection schedule.					■	T&ES-OEQ

MCM #6 Implementation Schedule

BMP	Task	Year(s) to Implement					Responsibility
		PY1	PY2	PY3	PY4	PY5	
6A	Coordinate ECG meetings.	▶	▶	▶	▶	▶	T&ES-OEQ
6B	Continue the City's street sweeping and leaf collection programs.	▶	▶	▶	▶	▶	T&ES-Maintenance
6C	Continue the City's catch basin and inlet cleaning program.	▶	▶	▶	▶	▶	T&ES-Maintenance
6D	Implement the "My City" program.	▶	▶	▶	▶	▶	City Manager's Office; T&ES-Maintenance; TE&S-OEQ
6E	Conduct annual training for operational employees.	▶	▶	▶	▶	▶	T&ES-OEQ; T&ES-Maintenance
6F	Identify all City facilities that have significant materials exposure.	■					T&ES-OEQ; T&ES-Maintenance
	Develop SWPPP inspection checklist and conduct facility inspections.		■		■		T&ES-OEQ; T&ES-Maintenance
6G	Investigate and implement certification needed to ensure that fertilizers and pesticides are applied according to manufacturer's recommendations.		■	▶	▶	▶	RP&CA; General Services
	Revise procurement standards to require that contractors apply fertilizers and pesticides according to manufacturer's recommendations		■				RP&CA; General Services

APPENDICES

Appendix A: Assessment of Current Ordinances and Legal Authorities, BMPs, Policies, Plans, and Procedures Applicable to TMDL Pollutants of Concern

Appendix B: Cross-Walk Between Four Mile Run TMDL Implementation Plan Actions and MS4 Program Plan BMPs

Appendix A: Assessment of Current Ordinances and Legal Authorities, BMPs, Policies, Plans, and Procedures Applicable to TMDL Pollutants of Concern

In accordance with 4VAC50-60-1240 Section I.B.2, the City must develop a list of current ordinances and legal authorities, BMPs, policies, plans, and procedures applicable to the TMDL pollutants of concern for which a WLA has been assigned. The City must then perform an evaluation to identify any weaknesses or limitations and develop a schedule to implement procedures and strategies to address the weaknesses and limitations accordingly. As part of this MS4 Program Plan, the City has already developed ordinances and legal authorities, BMPs, policies, plans, and procedures that it feels adequately addresses the TMDL pollutants of concern. The City will continue this review and submit a final evaluation, with follow-up strategies and procedures as needed, if any, before January 9, 2010.

Ordinances, BMPS, Policies, Plans, and Procedures	Applicability
Title 11, Chapter 13, City Code, Environmental Offenses	Section 11-13-2 of the City Code states "It shall be unlawful for any person to dump any waste on any property, in any waters or in any sanitary sewer or stormwater system, except as authorized by law or by applicable permit. In addition, Section 11-13-3 of the City Code states "It shall be unlawful for any person to accumulate, store, leave, place or deposit, or allow to be accumulated, stored, left, placed or deposited, any waste on any property within the city except as authorized by law or by applicable permit.' Taken together, these prohibitions provide the City with adequate authority to address unlawful dumping of bacteria containing waste or the unlawful deposit and or storage of bacteria containing waste where there is a possibility of that waste entering the storm drain system.
Title 5, Chapter 7, Animals and Fowl	Section 5-7-42 of the City Code establishes that it is illegal to deposit (unless immediately picked-up) dog feces on any public property. A person may be assessed a civil penalty of $50 for any violation of this section, and may be assessed a civil penalty of $100 for violating the provisions of Section 5-7-42.1 (dog waste on school or park property).
City of Alexandria Water Quality Supplement to the Master Plan	This plan was adopted on January 13, 2001 to meet the comprehensive planning requirements of the Chesapeake Bay Preservation Area Designation and Management Regulations. The document contains specific recommendations for addressing fecal coliform bacteria contamination – most of which have been incorporated into the MS4 Program Plan.

Ordinances, BMPS, Policies, Plans, and Procedures	Applicability
Master Plan for Dog Exercise Areas	The City adopted a Master Plan for Dog Exercise Areas in the fall of 2000 in order to ensure that these facilities do not contribute to bacteria from pet waste. One of the reasons for having dog exercise areas is to concentrate activity and provide the City with a way to focus education and outreach efforts. The plan includes recommendations for providing plastic bags at dog runs and the strategic placement of waste receptacles. The plan also requires new dog exercise areas to be located more than 75 feet from bodies of water.
MS4 Program Plan, BMP 1A	The City is currently participating in the Northern Virginia Regional Commission's regional education and outreach program, which has included extensive radio PSAs aimed at preventing bacteria pollution from improper disposal of pest waste.
MS4 Program Plan, BMP 1C	The City currently runs PSAs on cable channels 69 and 70. In addition to general stormwater pollution prevention education, PSAs have specifically addressed proper disposal of pet waste.
MS4 Program Plan, BMP 1E	The City has a vigorous storm drain inlet marking program aimed at preventing all types of dumping, including improper disposal of pet waste.
MS4 Program Plan, BMP 1G	The City distributes pet waste brochures and "Please Pick Up My Poop" post cards at events and pet waste brochures to anyone adopting a dog at the animal shelter.
MS4 Program Plan, BMP 3H and BMP 3I	As part of this revised MS4 Program Plan, the City will be conducting outfall reconnaissance on 275 outfalls during this permit period with the purpose of detecting and eliminated illicit sources of fecal coliform bacteria. In addition, the City will be performing an evaluation of all public properties in the non-tidal Four Mile Run watershed to determine whether additional measures are needed to reduce bacteria from these properties.

Appendix B: Cross-Walk Between Four Mile Run TMDL Implementation Plan Actions and MS4 Program Plan BMPs

In accordance with 4VAC50-60-1240 Section I.B.4, the City must incorporate applicable BMPs identified in a TMDL implementation plan into the MS4 Program Plan. The City may choose to implement BMPs of equivalent design and efficiency provided that a rationale is provided. The following shows the actions provided in the adopted Four Mile Run TMDL Implementation Plan for bacteria, with an explanation of how the action is integrated into the MS4 Program Plan.

TMDL Implementation Plan Action	BMP/Implementation Status
The City of Alexandria will update their brochure "Your Dog and the Chesapeake Bay Have More In Common Than You Think" to reflect the TMDL and Implementation Strategy. This brochure will be distributed at fair and festival exhibits and at City Park kiosks as well as made available at City offices.	See BMP 1G. The City distributes the brochure "Pet Waste Disposal, Water Quality, and Your Health" at public events and meetings attended by City staff. The City also distributes a post card entitled "Please Pick Up My Poop" to those adopting a puppy at the City Animal Shelter.
The City will incorporate information regarding bacteria as a NPS pollutant into the general NPS brochures that are actively distributed.	See BMP 1A. While the City's general education brochure incorporates information on bacteria prevention, the brochure will be updated to provide more specific information on bacteria prevention.
The City will consider funding to participate in the Northern Virginia Regional Pollution-Prevention (P2) Media Strategy program.	See BMP 1A. The City has participated in the Northern Virginia Regional Commission's Clean Water Partners program for the past several years. The City will continue to assess the effectiveness of the program and participate accordingly.
The City will publish one newsletter article concerning nonpoint source pollution and bacteria every other year in the newsletter, FYI Alexandria a City publication. Such articles will be made available to civic associations for inclusion in their publications.	See BMP 1C. The City has replaced this approach with an equivalent approach of running text messages and PSAs on cable channels 69 and 70. By using this approach, more people are exposed to the information more frequently.
The City will continue their storm drain marking program at current levels.	See BMP 1E. The City has continued to implement the storm drain marking program.
The City will include information regarding bacteria as a NPS pollutant on their webpage.	See BMP 1F. The City has implemented a water quality web site. During PY1, the City will perform a comprehensive assessment of the web site and making changes as necessary.
Where appropriate City information will include reference to this implementation plan and discussion of the City's proactive approach to	See BMP 2B and BMP 2C. The City provides the citizen Environmental Policy Committee with annual updates on the MS4 program including elements dealing with the Four Mile Run TMDL

the impairment.	Implementation Plan. The City also provides information on bacteria reduction efforts at City sponsored events such as Alexandria Earth Day.
The City will provide input to the VDH signage discussion for Four Mile Run.	The City discussed the option of installing VDH signage warning residents that the water is contaminated with fecal coliform. With the concurrence of VDH, the City, along with its regional partners (Fairfax County, Arlington County, and the City of Falls Church) decided not to pursue signage at this time.
The City will seek opportunities to place informative signs at strategic locations in the Four Mile Run watershed. Signs could be highly detailed and educational in nature or could be simple signs reminding park goers to pick up after one's pets.	See BMP 1G. The City proposes to install a pet education kiosk at the Fort Ward Dog Exercise Area as a pilot project. See BMP 1B. The City has installed 33 general information signs at 18 locations where roads cross major waterways. In addition, the City has installed nine signs at major stream crossings on hike/bike trails.
The City will develop an inappropriate (illicit) discharge detection program for their portion of the Four Mile Run watershed. Such a program will build upon the optical brightener monitoring previously performed throughout the watershed and will comply with the City's MS4 requirements. A plan will be developed to eliminate any discovered inappropriate discharges to the storm system.	See MCM 3 (multiple BMPs). The City has developed, implemented, and continues to enforce an illicit discharge detection and elimination program.
The City will enforce its Environmental Offenses Ordinance, Title 11, Chapter 13 of the City Code which prohibits non-stormwater discharges to the storm sewer system without specific permits.	See BMP 3C. The City continues to enforce the Environmental Offenses Ordinance.
The City will review its enforcement tools to ensure that the tools are consistent with one another and with the goals of the TMDL. Presentations or other training methods will be employed to educate Police, Animal Control Officers, and City staff about the TMDL water quality effort and the related enforcement tools. Efforts will also be made to reach the general population of the City regarding these tools. Such efforts may include articles published in the City newsletters, brochures, discussion with dog groups, or postings on the City website.	See BMP 3C and BMP 3D. Also, see Appendix B. The City has reviewed enforcement tools and has developed an ongoing program to train City staff on the MS4 program and specifically TMDL water quality issues.
The City will consider adding new locations for	See BMP 1G. The City will implement, on a pilot

pick-up bags and receptacles within the municipal parks. Informative signage will be considered at strategic locations in the watershed.	basis, a kiosk-style station with pick-up bags and a receptacle at the For Ward Dog Exercise area.
The City will explore requesting developers to proffer the provision of pick-up bags and receptacles for pet waste disposal with informative signage on larger multi-family development projects through the site plan development process.	The City is implementing a kiosk-style station at the Fort Ward Dog Exercise Area as a pilot project in BMP 1G. Based on an evaluation of the success of this effort, the City will continue to explore additional opportunities for implementing these types of facilities.
The City will continue to explore BMP retrofit opportunities for the watershed. These efforts will include ongoing work with the U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, Arlington County, a bi-jurisdictional citizen task force and the Northern Virginia Regional Commission to develop a feasibility study focused on the Four Mile Run flood control channel.	The City continually looks for BMP retrofit opportunities in the watershed. The City, in cooperation with the U.S. Army Corps of Engineers, the U.S. EPA, Arlington County, Fairfax County, the City of Falls Church, and the Northern Virginia Regional Commission have recently developed a Four Mile Run Restoration Master Plan. The City Council adopted the plan in March 2006. Funding has now been secured for phase I of the plan implementation.
The City will assess all stream segments in the watershed. Each stream segment will be evaluated and if restoration is warranted a work priority will be assigned. All stream segments in the Four Mile Run watershed will be given a priority that reflects the impairment and associated needs of Four Mile Run.	The City performed a comprehensive assessment of all City streams in 2005. This information has been used to prioritize stream restoration efforts and to identify potential illicit discharges.
The City will explore opportunities through the City site plan process and municipal projects to daylight under-grounded stream segments of Four Mile Run and its tributaries.	The City continually looks for opportunities to day-light streams on a case-by-case basis.
The City will consider stream restoration and stream bank stabilization projects when allocating funds in the Environmental Restoration Account and Alexandria Water Quality Improvement Account.	The City continually looks for opportunities to conduct stream restoration and stream bank stabilization on a case-by-case basis.
The City will continue to work to include stormwater runoff reduction and reuse technologies in their Chesapeake Bay Program.	See BMP 5C and BMP 5D. The City has maintained consistency with the stormwater runoff reduction requirements of the Chesapeake Bay Preservation Area Designation and Management Regulations and continuously looks to update the City's structural BMP design guidelines and performance standards. In addition, the City has participated in the development of the draft Northern Virginia BMP Handbook for Low Impact Development Techniques. Finally, the City is developing a "Planter Box" to be

	used as a stormwater BMP facility for single-family residences.
The City will strive to ensure that municipal projects include stormwater runoff reduction and reuse technologies where appropriate.	See BMP 5C and BMP 5D. City projects comply with all required stormwater runoff reduction and reuse technologies.
The City will continue to manage and enforce its Chesapeake Bay Preservation Act and MS4 programs. The City will also prepare to meet the challenges of the upcoming Potomac Tributary Strategies Program.	See BMP 5C and BMP 5D.
The City will ensure proper maintenance of the newly retrofitted regional pond on Lucky Run for proper function as a BMP.	See BMP 5B and 5E. The City maintains and inspects all municipally-owned BMPs.
The City of Alexandria will continue its street sweeping program at its current level.	See BMP 6B. The City continues to implement a comprehensive street-sweeping program.
The City will inspect, and clean as needed, catch basins on its portion of the Four Mile Run watershed.	See BMP 6C. The City continues to implement its catch basin and inlet cleaning program.